

NO. 130

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name Barclay Elliot  
Joint Welding Procedure E.J.  
Part number and Job number D330 630 011 / B33961

TEST WELDS REQUIRED

BASE METAL Aluminium WELDING PROCESS tig  
Penetration Complete ☐ Partial ☒ Single Weld ☒ Double Weld ☐  
Current AC ☒ DC ☐ Backing YES ☐ NO ☒

	Position	Vertical	Down <input type="checkbox"/>	Up <input type="checkbox"/>
Sheet Groove	1G <input type="checkbox"/>	2G <input type="checkbox"/>	3G <input type="checkbox"/>	4G <input type="checkbox"/>
Tube Groove	1G <input type="checkbox"/>	2G <input type="checkbox"/>	5G <input checked="" type="checkbox"/>	6G <input type="checkbox"/>
Sheet Fillet	1F <input type="checkbox"/>	2F <input type="checkbox"/>	3F <input type="checkbox"/>	4F <input type="checkbox"/>
Tube Fillet	1F <input type="checkbox"/>	2F <input type="checkbox"/>	4F <input type="checkbox"/>	5F <input type="checkbox"/>

Crossbolt Spacer Welded into Skidtube

TEST RESULTS

Visual Pass ☒ Fail ☐  
Penetration Pass ☒ Fail ☐  
Crossbolt Spacer Pass ☒ Fail ☐

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

Date of Test Coupon 07-10-09

Qualifier P.A. Darr

8 7 6 5 4 3 2 1

INSTALL ALS4-1032-225  
INSERTS (4 PLACES)  
AFTER FINISH

**D2750-043 ASSEMBLY (SHOWN)  
D2750-044 ASSEMBLY (OPPOSITE)**

BOND D2739 WEB INTO D2750-3 (OR D2750-4)  
OUTER TUBE WITH NON-STRUCTURAL  
SIKAFLEX-241 ADHESIVE PER DART QSI 015.  
NOTE: ENSURE THAT HOLES LINE UP.

D2750-3 (LH) OR  
D2750-4 (RH)

BLACK ANTI-SKID

2.0  
(TYP)

1.78 (REF)  
(TO D2739 WEB)

D3488-041  
(OR D3488-042)

INSTALL ALS4-1032-225  
WEARSHOE INSERTS (38 PLACES)  
AFTER FINISH

NO INSERT

WELDED SPACER  
NOT REQUIRED

D3535-35  
D3536-35

AN3C7A BOLT (REF)

D3537-1

D3535-13  
D3536-13

D3537-1

**RELEASED**  
07-08-02

D2744 CAP

**DETAIL H**  
SCALE 1:5

INSTALL:  
AN3C6A BOLT (1)  
AN960C10L WASHER (1)  
NAS1515H3L WASHER (1)  
(4 PLACES)

**SECTION J-J**  
SCALE 1:5

INSTALL AT AFTMOST  
D3537-1 WEARPAD:  
AN3C7A BOLTS (1)  
AN960C10L WASHER (1)  
(4 PLACES)

**SECTION N-N**  
SCALE 1:5

INSTALL:  
AN3C5A BOLT (1)  
AN960C10L WASHER (1)  
(38 PLACES)

D2743 SPACER (REF)  
**SECTION M-M**  
SCALE 1:5

**WELDING INSTRUCTIONS**  
1) CHAMFER HOLE 0.050 x 45°  
2) INSERT D2743 SPACER  
3) WELD INTO PLACE  
4) GRIND WELD FLUSH  
5) DRILL OUT SPACER TO Ø0.484  
6) SPOT FACE Ø0.750 (SECTION P-P ONLY)

INSTALL:  
AN6C44A BOLT (1)  
D2745 BUSHING (2)  
D3631-1 WASHER (2)  
MS21043-6 NUT (1)  
(4 PLACES)

**SECTION Q-Q**  
SCALE 1:5

INSTALL:  
AN8C35A BOLT (1)  
AN960C816L WASHER (2)  
NAS1515H8L WASHER (2)  
MS21083C8 NUT (1)

**SECTION R-R**  
SCALE 1:5


**SECTION P-P**  
SCALE 1:5

**SECTION T-T**  
(FOR Ø0.500 HOLES ONLY)  
SCALE 1:5

**WELDING INSTRUCTIONS**  
1) CHAMFER HOLE 0.050 x 45°  
2) INSERT D3490-5 SPACER (4 PLACES) INTO  
Ø0.313 HOLES OR INSERT D3490-1 SPACER  
(4 PLACES) INTO Ø0.500 HOLES  
3) WELD INTO PLACE  
4) GRIND WELD FLUSH  
5) INSERT D3492-045 PLUG ASSEMBLY (8 PLACES)  
INTO D3490-5 SPACER OR INSERT D3492-043  
PLUG ASSEMBLY (8 PLACES) INTO D3490-1 SPACER  
ON BOTH ENDS AFTER FINISH

**SECTION U-U**  
(FOR Ø0.313 HOLES ONLY)  
SCALE 1:5

INSTALL:  
D3492-041 PLUG  
ASSEMBLY (2 PLACES)

DESIGN PH	DRAWN BY CB	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED PH	APPROVED 	DRAWING NO. D2750	REV. E SHEET 5 OF 5
DATE 07.05.17	TITLE 350 SKIDTUBE ASSEMBLY		SCALE 1:10
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NO  
342247  
WORK ORDER  
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INSTALL ALS4-1032-225  
INSERTS (4 PLACES)  
AFTER FINISH

D2750-1 (LH) OR  
D2750-2 (RH)

INSTALL ALS4-1032-225  
WEARSHOE INSERTS (38 PLACES)  
AFTER FINISH

**D2750-041 ASSEMBLY (SHOWN)  
D2750-042 ASSEMBLY (OPPOSITE)**

BLACK ANTI-SKID

BOND D2739 WEB INTO D2750-1 (OR D2750-2)  
OUTER TUBE WITH NON-STRUCTURAL  
SIKAFLEX-241 ADHESIVE PER DART QSI 015.  
NOTE: ENSURE THAT HOLES LINE UP.

2.0  
(TYP)

1.78 (REF)  
(TO D2739 WEB)

D3488-041  
(OR D3488-042)

WELDED SPACER  
NOT REQUIRED

D3535-35

D3536-35

AN3C7A BOLT (REF)

D3537-1

D3535-13

D3536-13

D3537-1

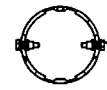
**RELEASED**  
07.05.02

D2744 CAP

J

J

**DETAIL H**  
SCALE 1:5



**SECTION J-J**  
SCALE 1:5

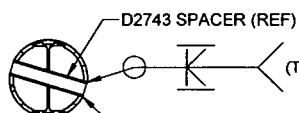
INSTALL:  
AN3C6A BOLT (1)  
AN960C10L WASHER (1)  
NAS1515H3L WASHER (1)  
(4 PLACES)



**SECTION N-N**  
SCALE 1:5

INSTALL AT AFTMOST  
D3537-1 WEARPAD:  
AN3C7A BOLTS (1)  
AN960C10L WASHER (1)  
(4 PLACES)

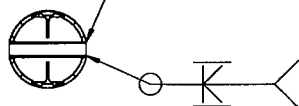
INSTALL:  
AN3C5A BOLT (1)  
AN960C10L WASHER (1)  
(38 PLACES)



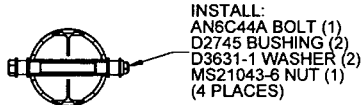
**SECTION M-M**  
SCALE 1:5

WELDING INSTRUCTIONS

- 1) CHAMFER HOLE 0.050 x 45°
- 2) INSERT D2743 SPACER
- 3) WELD INTO PLACE
- 4) GRIND WELD FLUSH
- 5) DRILL OUT SPACER TO Ø0.484
- 6) SPOT FACE Ø0.750 (SECTION P-P ONLY)

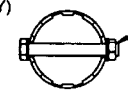


**SECTION P-P**  
SCALE 1:5



**SECTION Q-Q**  
SCALE 1:5

INSTALL:  
AN8C44A BOLT (1)  
D2745 BUSHING (2)  
D3631-1 WASHER (2)  
MS21043-6 NUT (1)  
(4 PLACES)



**SECTION R-R**  
SCALE 1:5

INSTALL:  
AN8C35A BOLT (1)  
AN960C816L WASHER (2)  
NAS1515H8L WASHER (2)  
MS21083C8 NUT (1)

D3490-3 SPACER

INSTALL:  
D3492-043 PLUG  
ASSEMBLY  
(2 PLACES)

**SECTION K-K**  
(FOR Ø0.750 HOLES ONLY)  
SCALE 1:5

WELDING INSTRUCTIONS

- 1) CHAMFER HOLE 0.050 x 45°
- 2) INSERT D3490-1 SPACER (4 PLACES) INTO  
Ø0.500 HOLES OR INSERT D3490-3 SPACER  
(4 PLACES) INTO Ø0.750 HOLES
- 3) WELD INTO PLACE
- 4) GRIND WELD FLUSH
- 5) INSERT D3492-041 PLUG ASSEMBLY (8 PLACES)  
INTO D3490-1 SPACER OR INSERT D3492-043  
PLUG ASSEMBLY (8 PLACES) INTO D3490-3 SPACER  
ON BOTH ENDS AFTER FINISH

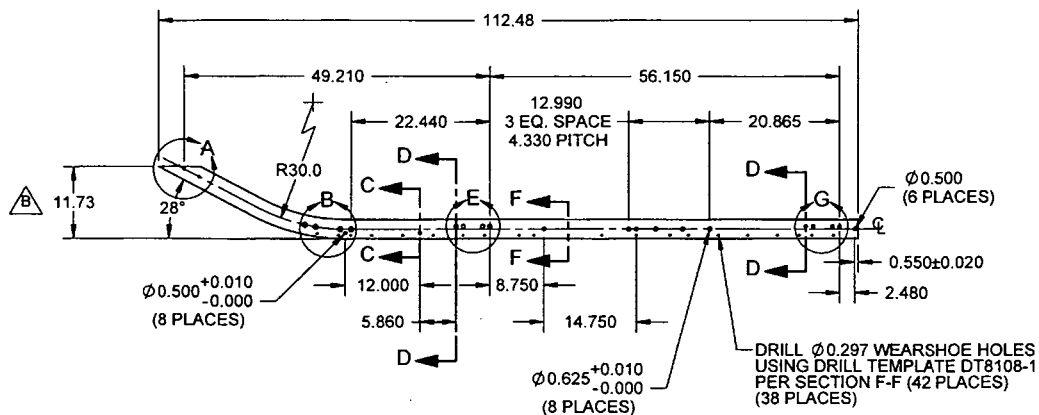
D3490-1 SPACER

INSTALL:  
D3492-041 PLUG  
ASSEMBLY  
(2 PLACES)

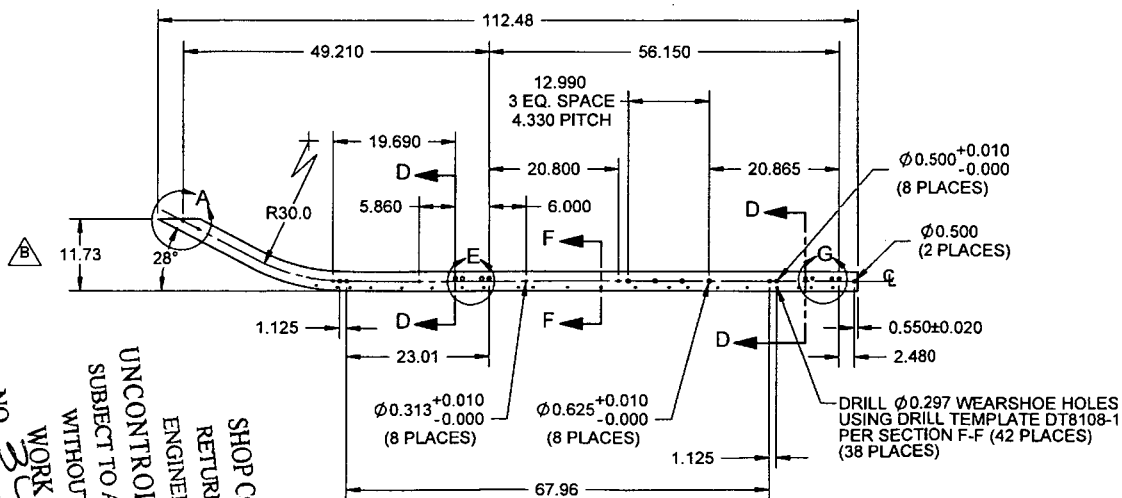
**SECTION L-L**  
(FOR Ø0.500 HOLES ONLY)  
SCALE 1:5

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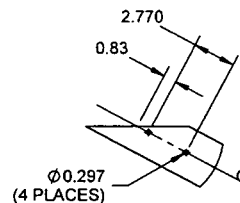
DESIGN PH	DRAWN BY CB	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA	
CHECKED PH	APPROVED [Signature]	DRAWING NO. D2750	REV. E SHEET 4 OF 5
DATE 07.05.17		TITLE 350 SKIDTUBE ASSEMBLY	SCALE 1:10
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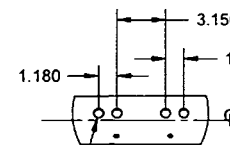
**D2750-1 LH SKIDTUBE (SHOWN)**  
**D2750-2 RH SKIDTUBE (OPPOSITE)**



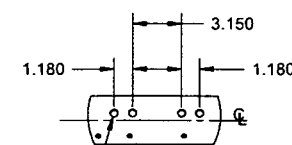
**D2750-3 LH SKIDTUBE (SHOWN)**  
**D2750-4 RH SKIDTUBE (OPPOSITE)**



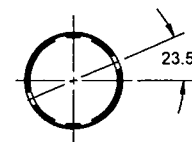
**DETAIL A**  
SCALE 1:8



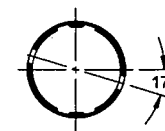
**DETAIL E**  
SCALE 1:8



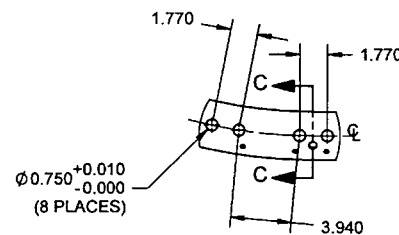
**DETAIL G**  
SCALE 1:8



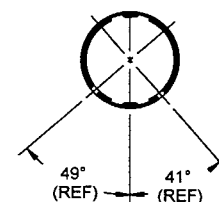
**SECTION C-C**  
SCALE 1:4



**SECTION D-D**  
SCALE 1:4



**DETAIL B**  
SCALE 1:8  
(ALL DIMENSIONS ARE STRAIGHT LINE DIMENSIONS)



**SECTION F-F**  
SCALE 1:4

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01-08-02

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DATE <b>07.05.17</b>	TITLE <b>350 SKIDTUBE ASSEMBLY</b>	SCALE 1:20	

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DATE <b>07.05.17</b>		TITLE <b>350 SKIDTUBE ASSEMBLY</b>	SCALE NTS

GENERAL NOTES:

**RELEASED**  
07.08.02 *[Signature]*

1. ALL DIMENSIONS ARE IN INCHES.
2. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
3. MAKE FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
4. DAMAGE TOLERANCE ON BENDING:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 12 INCHES ABOVE THE GROUND. NO GOUGING IS ACCEPTABLE IN THE FLAT PORTION OF THE TUBE. GOUGES UP TO 0.020 ARE ACCEPTABLE IN THE BENT PORTION OF THE TUBE. TUBE O.D. SHOULD BE  $3.150 \pm 0.010$  IN THE FLAT PORTION OF THE TUBE. TUBE O.D. SHOULD BE  $3.15 \pm 0.030$  IN THE BENT PORTION OF THE TUBE.
5. ALL HOLES DRILLED ON CENTERLINES EXCEPT THOSE NOTED BY SECTIONS C-C, D-D AND F-F.
6. WELDING TO BE DONE PER DART QSI 004.
7. FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:  
MINIMUM YIELD TENSILE STRENGTH = 35 ksi  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 ksi
8. FINISH:  
ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.  
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
9. INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED IN D2750-1/-2/-3/-4 WELDING DETAIL ON PAGE 4 AND 5. DRILL 'F' SIZE HOLES ( $\emptyset 0.297$ ) FOR WEARSHOE INSERTS.
10. D3488-041 (OR D3488-042) BLADE FITTING AND AN3C5A/AN3C7A WEARSHOE BOLTS TO BE INSTALLED USING SIKAFLEX-241 (OR EQUIVALENT) SEALANT.
11. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH SHOP COPY LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS ~~ONE~~ POWDER COATING WITH MEK DEGREASER.

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NO. **34297**

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**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 8/28/2007 3:20:11 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 34297

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

54.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

*EC 08/10/18*

55.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Package as per PPP D350-636-012

*REK F 08/10/18*

56.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

*DOX10/18*

Job Completion



*U 08-10-19*

34297



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: DD Date: 8/18/17  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 8/28/2007 3:20:11 PM  
User: Kim Johnston

## Process Sheet

\*Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 34297

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

47.0

D2741

Blade



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Blade

Batch: 1332583

SP

48.0

AN960C816L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

Batch: M104093

SP

49.0

MS21083C8

NUT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Nut

Batch: M104625

SP

50.0

AN8C21A

BOLT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch: M105107

M104605

SP

51.0

NAS1515H8L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

WASHER

Batch: M104985

SP

52.0

D34931

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

WASHER

32887

SP

53.0

D35321

spacer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

spacer

B 27894

H10/18 SP

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 8/28/2007 3:20:11 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 34297

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

41.0

MS21083C8

NUT



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

NUT

Batch: m104625

FL

42.0

NAS1515H3L

WASHER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

WASHER

Batch: m105408

FL

43.0

NAS1515H8L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

WASHER

Batch: m105430

FL

44.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3"

batch: m105005

3-Install blade fitting D3488-042, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

BATCH: m105469

EXP DATE: 08-01

4-Coat all exposed fasteners with "LPS Procyon"

batch: m104251

FL 07/10/17 ①

45.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

FL 07/10/17

46.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 34297

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

34.0

AN3C6A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: *m105057*

*F2*

35.0

AN3C7A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

BOLT

Batch: *m103668*

*F2*

36.0

AN6C44A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

BOLT

Batch: *m104937*

*F2*

37.0

AN8C35A

BOLT



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

BOLT

Batch: *m102671*

*F2*

38.0

AN960C10L

washer



Comment: Qty.: 46.0000 Each(s)/Unit Total : 46.0000 Each(s)

washer

Batch: *m105811*

*F2*

39.0

AN960C816L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

WASHER

Batch: *m105408*

*F2*

40.0

MS210436

NUT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

NUT

Batch: *m103693*

*F2 07/10/170*

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 34297

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

27.0

D353635

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)  
GASKET

B33659

FL

28.0

D35371

WEARPAD



Comment: Qty.: 5.0000 Each(s)/Unit Total: 5.0000 Each(s)  
WEARPAD  
Batch: B34282

FL

29.0

D36311

WASHER



Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)  
WASHER  
Batch: B34276

FL

30.0

D3488042

BLADE FITTING ASSEMBLY, RH



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)  
Blade Fitting, RH  
Batch: B32233

FL

31.0

D3492041

PLUG ASSEMBLY



Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)  
PLUG ASSEMBLY  
Batch: B33075

FL

32.0

D3492043

PLUG ASSEMBLY



Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)  
PLUG ASSEMBLY  
Batch: B32997

FL

33.0

AN30C5A

Bolt



Comment: Qty.: 38.0000 Each(s)/Unit Total: 38.0000 Each(s)  
Bolt  
Batch: M105143

FL 07/10/170



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 34297

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

20.0

QC5

INSPECT WORK TO CURRENT STEP

Comment: INSPECT WORK TO CURRENT STEP  
Inspect Inserts

N/A

21.0

D2745

Bushing



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

Bushing

Batch: B30817

FL

22.0

D353513

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B34316

FL

23.0

D353525

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B34317

FL

24.0

D353535

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: ~~B33371~~ B33371

FL

25.0

D353613

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B32742

FL

26.0

D353625

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B32741

FL 07/10/17 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 34297

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

7- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004

(welding instructions on sheet 4)

A/R Aluminum Rod batch: *m 105058 BE 07-10-09*

8-Grind welds flush as per Dwg D2750

9-Spot face ground handling holes section J-J (total of 4 places per side) as per dwg D2750

10-Deburr holes

*JK 7-10-0*

14.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

*PD 07-10-16 (1)*

15.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*EC 02/10/16*

16.0

POWDER COATING

POWDER COATING



*m 105068*



Comment: POWDER COATING

Powder Coat Gloss White (Ref. 4.3.5.1) as per Dart QSI 005 4.3

*FL 07/10/16 (1)*

17.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

Inspect for foreign object per QSI 024

*BK 07-10-17 (1)*

18.0

ALS41032225

Insert



Comment: Qty.: 42.0000 Each(s)/Unit Total : 42.0000 Each(s)

Insert

Batch: *m 100621*

*FL*

19.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Install inserts as per dwg D2750

*FL 07/10/17 (1)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 8/28/2007 3:20:11 PM  
User: Kim, Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 34297

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

9.0

D2739

350 I Beam



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Web

Batch:

B32655

① H 7-10-4

10.0

D34901

CROSS BOLT SPACER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Crossbolt spacer

Batch:

B32658

BE 07-10-09

11.0

D34903

CROSS BOLT SPACER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Crossbolt spacer

Batch:

B33825

BE 07-10-09

12.0

D2743

Crossbolt Spacer



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

Crossbolt Spacer

Batch:

B31696

BE 07-10-09

13.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open up holes of Detail V & Detail C to 0.625" (total of 8 holes per side)  
as per dwg D2750.

2-Open up holes of Detail D to 0.750" (total of 4 holes per side)  
as per dwg D2750.

3-Open float holes to .500" (4 per Side)

4-Chamfer holes of Detail V, Detail C, Detail D and hole size "W" per dwg D2750 (welding instructions on sheet 4)

5-Deburr and blow out all chips from inside of tube

6-Bond web D2739 in place as per QSI 015 586

A/R

Sikaflex-291

batch:

exp. date:

8-71

H 7-10-4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 34297

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description:

3- Mark fwd end for cutting using Drill Jig DT 8150 & DT8863 and cut as per dwg D2750.

4-Drill pilot holes for Detail B using DT8330

5-Open up holes for Detail B, "hole size W" and blade fitting location holes to 0.500" (total of 9 holes per side) as per dwg D2750.

6-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 and open to 0.250" \*\*\*Make sure that wearplate holes are on bottom of tube\*\*\*\*\*

7-Open up holes of Detail A to 0.250" (total of 2 holes per side)

8- Countersink all fwd wearshoe holes (total of 19 holes per side) DO NOT C-SINK THE LAST AFT HOLES (total of 2 per side for blade fitting) as per dwg D2750.

9-Weld D2744 Cap as per Dwg D2750 and QSI 004 Fill grooves in bend left from bending as per QSI 004 A/R Aluminum Rod M 105138 BE 07-09-27

10-Grind welds flush as per Dwg D2750

11-Countersink Detail A as per dwg D2750.

5.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

07-10-02

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

07-10-02

7.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

07-10-04

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

07-10-04



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 8/28/2007 3:20:11 PM  
 User: Kim Johnston

## Process Sheet

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Customer : CU-DAR001 Dart Helicopters Services Drawing Name : 350 SKIDTUBE ASSEMBLY RH  
 Job Number : 34297  
 Estimate Number : 10265  
 P.O. Number : *N/A* Part Number : D350636012  
 This Issue : 8/28/2007 S.O. No. : *N/A* Drawing Number : D2750 REV E  
 Prsht Rev. : NC Project Number : N/A  
 First Issue : *N/A* Type : LANDING GEAR Drawing Revision : E  
 Previous Run : 33009 Material : *N/A*  
 Written By : *[Signature]* Due Date : 9/21/2007 Qty: 1 Um: Each  
 Checked & Approved By : *[Signature]*  
 Comment : Est Rev: I 02-09-25 Rearranged procedure steps KJ  
 Est Rev: J 06-03-29 As per Rev D EC  
 Est Rev: K 06-07-13 As per dsi9343 EC  
 Est Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM  
 Verified By:

## Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



*KS 07.09.05*

Comment: DOCUMENT CONTROL

Photocopy blue file and type labels per PPP D350-636-012 CHG 003

2.0 D26003BENT Extrusion Bent



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number Description Batch  
 1 D2600-3-Bent Extrusion (Bent) *B 32448*

*7-9-18*

3.0 D2744 Fwd Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cap

Batch: *B 32584* *BE 7-9-27*

4.0 LANDING GEAR 1 LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1- Mark cut line on aft end of D2600-3-Bent using Jig DT 8150. Cut to length as per Dwg D2750. Deburr end

2- Drill pilot holes as per Dwg D2750 sheet 3 (D2750-1 details). Drill using drill Jig DT8150 & DT8863 drilling holes labelled "A" only.

*7-9-18*